

A RARE CASE OF CHRONIC DIARRHEA IN AN ELDERLY MALE

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SUMMARY

Chronic diarrhea is a common condition in older age groups, and many patients do not seek medical attention unless their diarrhea is associated with other symptoms, such as weight loss, gastrointestinal bleeding or abdominal pain. It is a critical condition in the elderly, especially with systemic disease. We report the case of an elderly patient with chronic diarrhea secondary to intestinal capillariasis. Human intestinal capillariasis is a rare parasitosis of the gastrointestinal tract, which may be a fatal disease if early treatment is not given. The clinical hallmarks of capillariasis include chronic diarrhea, abdominal pain, borborygmi, marked weight loss, protein and electrolyte loss, and cachexia. Most patients die from electrolyte loss resulting in heart failure and/or septicemia. Taiwan, particularly in Taitung County, is a *Capillaria*-prevalent area. Thus, parasitosis must be considered in the differential diagnosis of patients with debilitating chronic diarrhea, especially in the elderly aboriginal population of Taitung County. A careful dietary and travel history is important in any such case; but even in the absence of clear-cut exposure, a parasitic infection should be considered and carefully investigated. [International Journal of Gerontology 2009; 3(2): 122–125]

Key Words: *Capillaria philippinensis*, chronic disease, diarrhea, elderly, intestinal capillariasis

Introduction

Chronic diarrhea is a common condition, and it may occur in up to 1–5% of the population¹. Many patients do not seek medical attention unless their diarrhea is associated with other symptoms, such as weight loss, rectal bleeding or abdominal pain. Unlike acute diarrhea which is mostly self-limiting, chronic diarrhea often persists unless therapy is initiated; this makes an accurate diagnosis central to effective management. In addition, older patients may not admit to having chronic diarrhea, particularly if they are also incontinent². However, chronic diarrhea is a critical condition

in the elderly with systemic disease. We report the case of an elderly patient with chronic diarrhea secondary to intestinal capillariasis. Human intestinal capillariasis is a rare parasitosis of the gastrointestinal tract, which may be a fatal disease if early treatment is not given.

Case Report

A 68-year-old aboriginal man was hospitalized with watery diarrhea that had been occurring about six times a day for 1 month. He also had transient cramping abdominal pain, borborygmi, and a 9-kg weight loss over the same period. He denied recent consumption of raw or undercooked fish. Initial physical examination was unremarkable except for pale conjunctivae and bilateral lower leg edema. His hemoglobin was 8.6 g/dL (normal, 11.5–15 g/dL), hematocrit 25.4% (normal, 35.0–47.0%) and albumin 1.6 g/dL. Hypokalemia (2.4 mEq/L; normal, 3.5–5.3 mEq/L) and hyponatremia



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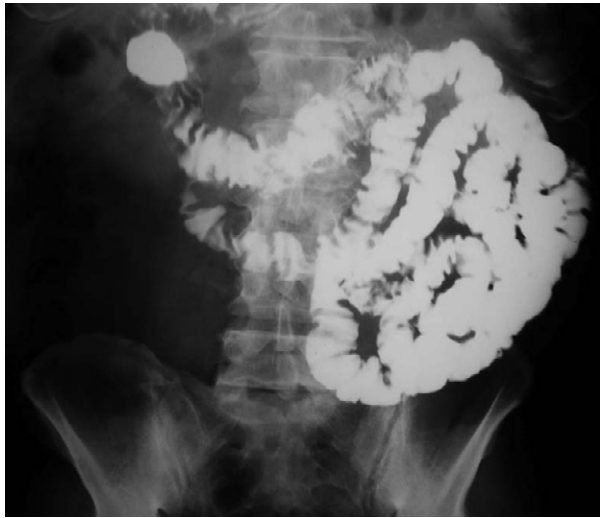


Figure 1. Small bowel barium series revealing mild dilatation and thickened mucosa of the jejunum.

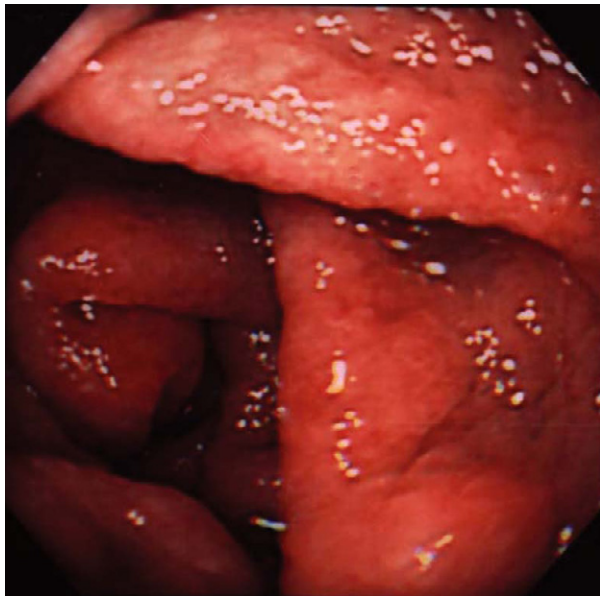


Figure 2. Push enteroscopy revealing severe erythematous changes and mucosal edema in the proximal jejunum.

(126 mEq/L; normal, 135–147 mEq/L) were also found. There was occult blood in his stool, but stool examination results for ova and parasites were negative. Initial treatment included fluid hydration, electrolyte support, and antidiarrheal medicine, but with no success. Esophagogastroduodenoscopy revealed superficial gastritis and a shallow duodenal ulcer. On colonoscopy, there were several small diverticula, and one polyp was found in the ascending colon. In a small bowel barium series, the jejunal mucosa appeared to be edematous (Figure 1). Push enteroscopy confirmed the presence of mucosal edema in the proximal jejunum

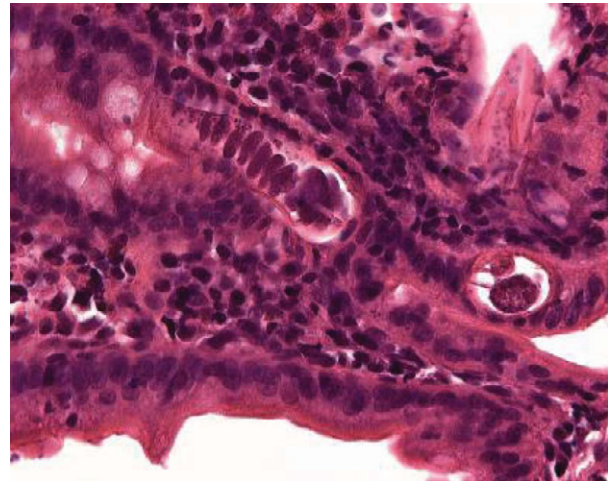


Figure 3. Biopsy of the jejunal mucosa revealing two *Capillaria philippinensis* worms embedded in the intestinal mucosa (hematoxylin and eosin, 400×).

(Figure 2). Pathologic examination of a biopsy specimen revealed *Capillaria philippinensis* worms embedded in the mucosa (Figure 3). The patient was treated with mebendazole, 200 mg orally twice daily for 3 weeks, and recovered promptly. On follow-up over the next 12 months, he had no further gastrointestinal symptoms.

Discussion

Chronic diarrhea commonly occurs in older age groups, although more covertly than in the young, and can result in disability, especially with systemic disease. For this reason, it is important for the clinician to recognize these symptoms and disorders as significant, and specifically to seek a history of chronic diarrhea in elderly patients. In approaching the elderly patient with chronic diarrhea, it is also important to recognize unusual parasitic infections in the gastrointestinal tract, especially in an endemic area.

Capillaria philippinensis, an intestinal parasite that causes severe enteropathy, was first reported in 1964 in the Philippines^{3–5}. Major outbreaks have occurred in the Philippines and Thailand^{3,5}. In addition, sporadic cases have been reported in Japan⁶, Korea⁷, Indonesia⁸, Iran⁹, and Egypt¹⁰. However, Taiwan is also a *Capillaria*-prevalent area as reported in a retrospective study, and especially in Taitung County³. The majority of 30 patients in the report were Taiwanese aborigines, particularly from the Ami and Paiwan tribes. Our patient was a Paiwan tribesman in Taitung County, and this may

have been a risk factor for infection. From the Taiwan experience³, the gender ratio was 1.5:1 (18 males to 12 females); the age of infected persons ranged from 12 to 76 years, with a mean age of 50 years. However, 11 patients were older than 60 years. In comparison with other countries, Taiwan had a greater proportion of elderly infection. Most of the patients had chronic progression of intestinal capillariasis infection.

Reported cases of intestinal capillariasis have frequently been associated with the consumption of raw or undercooked fish^{3–5}. Hakka Chinese in Taiwan commonly eat raw freshwater fish⁴, and elderly Taiwanese aborigines often eat a traditional food called *Chou-Bao*, which is made by soaking small raw fish in homemade fermented millet³. This has been the presumed route of *C. philippinensis* infection among some patients in Taiwan^{3,11}. Our patient denied consuming any raw fish; this led us to speculate that something he ate was contaminated by the uncooked visceral contents of infested fish. In addition, the intermediate hosts for the parasite are small freshwater and brackish water fish, and fish-eating birds are probably the reservoir host⁴. From the viewpoint of geography, the distance between Taitung County in Taiwan and Ilocos Norte and Ilocos Sur in northwestern Luzon, the outbreak area of the Philippines, is less than 500 km, which may potentially allow fish-feeding migratory birds to bring *C. philippinensis* to Taiwan³.

The clinical hallmarks of capillariasis include chronic diarrhea, abdominal pain, borborygmi, marked weight loss, protein and electrolyte loss, and cachexia^{3,4,11}. Laboratory examinations have found low levels of potassium and albumin in the blood, and malabsorption of fats and sugar^{12,13}. These patterns may result from *C. philippinensis* secretion of a proteolytic substance or direct penetration of the intestinal wall that causes cellular injury and dysfunction¹³. Therefore, the destruction of the intestinal cell membrane may interrupt nutrient absorption causing weight loss, and fluid, protein and electrolyte loss. It results in a low level of potassium and albumin in the blood of *C. philippinensis*-infected patients. Thus, infection with *C. philippinensis* should be considered in the differential diagnosis of malabsorption syndrome, one of the causes of chronic diarrhea. Intestinal capillariasis may be diagnosed by stool examination³; but if results of stool samples are negative, endoscopy or even surgery may be required to obtain biopsy specimens, such as in our patient. The diagnosis is often delayed, particularly in non-endemic

areas. The average time from onset of symptoms to definitive diagnosis in Taiwan is 4 months¹¹. If patients with intestinal capillariasis are not treated, they will have severe muscle wasting, cachexia, edema, and death. Most patients die from electrolyte loss resulting in heart failure and/or septicemia¹². Albendazole and mebendazole are the drugs of choice for the treatment of human intestinal capillariasis, because they are effective against eggs, larvae, and adult worms^{4,11}. In the series of 30 Taiwanese patients reported by Lu et al.³, all recovered completely with treatment and there were no deaths or recurrences.

Intestinal capillariasis must be considered in the differential diagnosis of patients with debilitating chronic diarrhea, especially in the elderly aboriginal population of Taitung County in Taiwan. A careful dietary and travel history is important in any such case; but even in the absence of clear-cut exposure, a parasitic infection should be considered and carefully investigated.

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